

## REMARKS

Claims 1-37 are pending in the present application.

In the Office Action mailed 9/7/2004, the Examiner rejected claims 1-3, 14, 15, 20-22, and 30-32 under 35 U.S.C. § 102 and claims 4-7, 11-13, 16-19, 23-26 and 33-37 under 35 U.S.C. § 103. The Examiner also objected to claims 8-10 and 27-29.

Applicants respectfully respond to this Office Action.

Claim Rejections under 35 U.S.C. § 102

The Examiner rejected claims 1-3, 14, 15, 20-22 and 30-32 under 35 U.S.C. § 102(a) as being anticipated by U.S. Patent No. 6,175,588 to Visotsky et al.

The rejection contends that Visotsky discloses an apparatus and method for estimating a signal to interference and noise ratio (SINR) of a wireless channel such that the channel comprises pilot and non-pilot components. With respect, the Examiner's argument is traversed. Visotsky does not disclose determining a parameter using said output, and estimating the SINR of the wireless channel using said parameter. In operation 504, one or more parameters are calculated using the soft estimate of the data symbols output by adaptive equalizer 108 as well as the re-encoded data bits from operation 502. For example, the formulations given above for mean squared error (MSE) or bias parameters can be calculated, wherein  $\hat{y}(k)$  represents the soft estimate of the data symbols output by the equalizer, and  $y(k)$  represents the re-encoded data bits. Returning to FIG. 3, these one or more parameters are then used in operation 308 to estimate the SINR of wireless channel 108. (See Applicants' Specification, p. 14, par. 1045.) Visotsky, on the other hand, merely mentions freezing the equalizer coefficients in the intervals between pilot symbols.

Consequently, the Visotsky Patent does not anticipate the structure defined in claims 1, 14, 20, and 30 under 35 U.S.C. § 102(a) for at least the foregoing reasons. Claims 2-3, 15, 21-22, and 31-32 depend from claims 1, 14, 20, and 30 and therefore include all the limitations of those independent claims. Since the Visotsky Patent does not render claims 1-3, 14, 15, 20-22 and 30-32, unpatentable Applicants respectfully submit that the rejections thereof be withdrawn by the Examiner.

Claim Rejections under 35 U.S.C. § 103

Next, the Examiner rejected claims 4, 11-13, 16, 23, and 33 under 35 U.S.C. § 103(a) as being unpatentable over Visotsky in view of U.S. Patent No. 6,680,985 to Strodtbeck et al. To establish a prima facie case of obviousness three basic criteria must be met. First, there must be some suggestion or motivation of, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine the reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference(s) must teach or suggest all the claim limitations.

The rejection contends that Strodtbeck discloses using a bias to adapt the equalizer shown in figure 1. As mentioned above, Strodtbeck does not describe determining a parameter using said output, and estimating the SINR of the wireless channel using said parameter.

Applicants thus respectfully submit that claims 1, 14, 20, and 30 are not rendered obvious by the Visotsky Patent when considered alone or in combination with Strodtbeck. Claims 4, 11-13, 16, 23, and 33 depend from claims 1, 14, 20, and 30 and therefore include all the limitations of those independent claims. Since the Visotsky and Strodtbeck Patents do not render claims 4, 11-13, 16, 23, and 33, unpatentable Applicants respectfully submit that the rejections thereof be withdrawn by the Examiner.

Then, the Examiner rejected claims 5, 6, 24, 25, 34, and 35 under 35 U.S.C. § 103(a) as being unpatentable over Visotsky in view of U.S. Patent No. 6,310,915 to Wells et al.

The rejection contends that Wells discloses that it is desired to re-encode a previously encoded signal. As mentioned above, Wells does not describe determining a parameter using said output, and estimating the SINR of the wireless channel using said parameter.

Applicants thus respectfully submit that claims 1, 20, and 30 are not rendered obvious by the Visotsky Patent when considered alone or in combination with Wells. Claims 5, 6, 24, 25, 34, and 35 depend from claims 1, 20, and 30 and therefore include all the limitations of those independent claims. Since the Visotsky and Wells Patents do not render claims 5, 6, 24, 25, 34, and 35, unpatentable Applicants respectfully submit that the rejections thereof be withdrawn by the Examiner.

Next, the Examiner rejected claims 7, 26, and 36 under 35 U.S.C. § 103(a) as being unpatentable over Visotsky in view of Wells et al further in view of Strodbeck et al.

The rejection contends that Strodbeck discloses using a bias to adapt the equalizer shown in figure 1. As mentioned above, Strodbeck does not describe determining a parameter using said output, and estimating the SINR of the wireless channel using said parameter.

Applicants thus respectfully submit that claims 1, 20, and 30 are not rendered obvious by the Visotsky Patent when considered alone or in combination with Wells and Strodbeck. Claims 7, 26, and 36 depend from claims 1, 20, and 30 and therefore include all the limitations of those independent claims. Since the Visotsky, Wells, and Strodbeck Patents do not render claims 7, 26, and 36, unpatentable Applicants respectfully submit that the rejections thereof be withdrawn by the Examiner.

Then, the Examiner rejected claims 17, 18, and 37 under 35 U.S.C. § 103(a) as being unpatentable over Visotsky in view of U.S. Patent No. 5,914,959 to Marchetto et al.

The rejection contends that Marchetto discloses a scheme that reduces the data transmission rate as the SINR becomes poor. As mentioned above, Marchetto does not describe determining a parameter using said output, and estimating the SINR of the wireless channel using said parameter.

Applicants thus respectfully submit that claims 17 and 37 are not rendered obvious by the Visotsky Patent when considered alone or in combination with Marchetto. Claim 18 depends from claims 17 and 37 and therefore includes all the limitations of those independent claims. Since the Visotsky and Marchetto Patents do not render claims 17, 18, and 37, unpatentable Applicants respectfully submit that the rejections thereof be withdrawn by the Examiner.

Finally, the Examiner rejected claim 19 under 35 U.S.C. § 103(a) as being unpatentable over Visotsky in view of Marchetto et al further in view of Strodbeck et al.

The rejection contends that Strodbeck discloses using a bias to adapt the equalizer shown in figure 1. As mentioned above, Strodbeck does not describe determining a parameter using said output, and estimating the SINR of the wireless channel using said parameter.

Applicants thus respectfully submit that claim 17 is not rendered obvious by the Visotsky Patent when considered alone or in combination with Marchetto and Strodtbeck. Claim 19 depends from claim 17 and therefore includes all the limitations of that independent claim. Since the Visotsky, Marchetto, and Strodtbeck Patents do not render claim 19, unpatentable Applicants respectfully submit that the rejections thereof be withdrawn by the Examiner.

Claim Objections

The Examiner also objected to claims 8-10 and 27-29 as being dependent upon a rejected base claim. The objections are moot since Applicants have argued allowance of the rejected base claim.

**REQUEST FOR ALLOWANCE**

In view of the foregoing, Applicants submit that all pending claims in the application are patentable. Accordingly, reconsideration and allowance of this application are earnestly solicited. Should any issues remain unresolved, the Examiner is encouraged to telephone the undersigned at the number provided below.

Respectfully submitted,

Dated: 12/3/04

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